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Declassified E.O. 12356 Section 3.3/NND No. 785021

ACC AC280(E)/TN4 10000/148/1880 LEDOLE

APR 1945

8/1880 LEDOLE JUNCTION - CARP IN ONE
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100/280E

TRANSPORTATION SUB-COMMISSION, A.C.
(RAIL DIVISION)
C/o. Transportation Increment
C.M.P.

Tel. 843239

Our Ref. : AC/Tn/32/8/C.E.

18th April 1945

TO : Planning Branch,
Tn.S.C., A.C.

SUBJECT : Line 272 -
Redole Junction to Carpinore.

1. Herewith copy of request for rehabilitation of above line received from I.S.R.
2. Financial approval and priority are requested.
Cost : 57,000.000
Materials ?
Duration of work to opening of line 7 months from date of commencement.

O.H. LINDBERG,
Lieut-Colonel,
Chief, Rail Div.

Redole Junction to Carpinone.

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O.H. LINDBERG,
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785021

MINISTRE OF TRANSPORT
I.S.R. Direction General
Work and Construction Services

15 April 1945
L 5/13/15853/ICCA/
3709/9

SUBJECT : Point of branchin off
at Redole-Garpinone
rehabilitation.

TO : Tn.S.C., A.C.

1) In view of the reoperation of Termoli-Campobasso line and of the eventual rehabilitation of the other section line from Campobasso to Benevento, whereof authority has already been requested to your H.Q., it is deemed suitable to carry out also the rehabilitation of the line that from Bivio Bosco Redole, on Campobasso-Benevento, is branching off, northward, as far as Garpinone.

2) Such line, only 29 Km. long, even being a secondary one, besides to complete the internal railway system just northward of Naples Compartimento, is very important from the economical standpoint, because running through many farms.

3) The most important masonry works to be repaired are only 3 bridges and 3 viaducts, to which are to be added: other 28 masonry works (span between m. 080 and m. 8) the Castelpetrasso tunnel, damaged along for approx. 250 mts., and some station buildings and linekeeper's-houses, whose damages are not very heavy. All these works could be reconstructed in masonry; the supply of the materials required is very easy, as they are available on the spot.

Also for the repair of the permanent way no special iron materials are necessary, as it will be possible, through proper action, to reutilize those existing there. On the contrary, 36.000 litres of fuel and approx. 720 litres of lubricating oil will be necessary for the vehicles that are to be used during the completion of said works.

The works, if started at once, could be completed within about 7 months, i.e. this year, insofar the line tracks

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The works, if started at once, could be completed within about 7 months, i.e. this year, insofar the line tracks are concerned.

During 1946 will be continued those works concerning reconstruction of Castelpetroso tunnel, without affecting the line reoperation. The estimate cost of the works is 57.000.000 lire (fifty seven millions).

4) We hope that your Commission will grant the authority to start the works, and for this purpose we attach the relative plan made of a report, an expense estimate, and some drawings.

The Director General
Sgd.: Di Raimondo.

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MINISTRY OF TRANSPORTS
I.S.R.NAPLES, COMPARTIMENTO
WORKS SECTION

GENERAL SUGGESTION CONCERNING THE REHABILITATION OF
BENEVENTO - CAMPOBASSO
LINE.

The Italian Railway system, has in the area north of Rome 3 main lines running from south to north, i.e. 2 coastal lines and 1 central one, connected crosswise by secondary lines. In the area south of Rome, due to the impervious kind of the zone to be crossed, there is no central line, and the main lines are only the coastal ones, i.e. the line running along Tyrrhenian coast and the line running along the Adriatic one.

The coastal lines are connected by transversal lines, that beside being a connection between the coastal lines, are used to connect the internal areas of Italy with the important towns along the coasts.

As the main cross line Naples - Foggia has been put into operation on the 1st of January 1945, and owing to the rehabilitation of the Avellino-Benevento and Avellino - Rocchetta S. Antonio lines, already authorized; it is possible to consider that all the railway lines, even the secondary ones, are already in operation.

The first transversal connection lines, north of Naples, is the Benevento-Campobasso-Termini line, which is also connected with the line to Rome, through Caianello-Frosinone - Carpinone - Bivio Bosco Redole line.

The Benevento-Campobasso-Termini line, even being a secondary one, is, especially now, important, as it connects the whole fertile agricultural area of Campobasso Province with the Tyrrhenian and Adriatic coasts. Concerning the industry, the rehabilitation of the Benevento-Campobasso line will be useful, for instance at Morcone there are large lignite quarries. They are used by sundry workshops at Benevento, where same is carted by motor vehicles, it requires, of economical and of vehicles and fuel,

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The Benevento-Campobasso-Termini line, even being a secondary one, is, especially now, important, as it connects the whole fertile agricultural area of Campobasso Province with the Tyrrhenian and Adriatic coasts. Concerning the industry, the rehabilitation of the Benevento-Campobasso line will be useful, for instance at Morcone there are large lignite quarries. They are used by sundry workshops at Benevento, where same is carted by motor vehicles, it requires therefore a heavy waste, of economical and of vehicles and fuel, that could at present be usefully used for other purposes.

Although in said Province the main routes have been rehabilitated the snow falls of this winter have, clearly shown that road transport, during the winter are uncertain.

The above mentioned necessities have been screened and acknowledged by proper Italian Authorities, as well as by A.C. which authorized since June 1944 the immediate starting of the reconstruction of the Termini-Campobasso section.

As said section was less damaged, it appeared easier to reconstruct it. Said works, including 13 damaged masonry works, started on the first day of September, and were mostly carried out within December last. The line will be reopened within March next, as it is necessary to wait for the completion of the railway bridge over the Biferno river near Termini.

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Due to the rehabilitation of the Termoli-Campobasso line, it is more urgent to rehabilitate the Benevento-Campobasso section. The current traffic of Campobasso Province has always headed to Naples, instead to Apulia. Therefore even if the railway connection Via Termoli, will be very useful for the above area, the whole and proper solution will only be the operation of a railway connection with Naples, Via Benevento.

Also under the strict railway stand-point the reoperation of the Benevento-Campobasso section, represents a necessity really and urgently felt, in case of interruption of the Benevento-Foggia section, the Benevento-Campobasso-Teroli line is the quickest connection between the Tyrrhenial line and the Adriatic one. In normal conditions, said line represents a natural help to the main one, in case of an intense traffic.

We deem therefore that the reconstruction of the Benevento-Campobasso line, as the main ones have already been reconstructed is now necessary, and for this purpose we planned these work.

The damages to said line are remarkable, especially regarding the masonry work, as they are were numerous on this line, as is is a mountainous one;

Equipment damages, although being heavy, will be easily easily repaired. There are no heavy damages at the buildings.

Destroyed masonry work on said line are 42, except 3 road over passes and 3 small bridges (small span) i.e.

small bridge (span 0.30 mts)	at Km. 22 + 283
" " " "	" " 66 + 858
" " " "	" " 70 + 269

The damaged masonry works are No 28 viaducts and No 8 tunnels.

As it is possible to note from the attached drawings, the viaducts have been almost totally destroyed. Besides, even if some structure is still standing, its static conditions suggest to carry out a throughoutly reconstruction, considering that the relative reconstruction, carried out at the same time of the resumption on the damaged part of the masonry work, will be less expensive compared with an eventual reconstruction of the deranged part left incorporated in the work after the reoperation of the line.

Many of the destroyed viaducts, are used to go over ground depressions, some times not so deep, and it would seem that the most economical and quickest arrangement is that substituting the

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The damaged masonry work are No 28 viaducts and No 6 tunnels.

As it is possible to note from the attached drawings, the viaducts have been almost totally destroyed. Besides, even if some structure is still standing, its static conditions suggest to carry out a throughoutly reconstruction, considering that the relative reconstruction, carried out at the same time of the resumption on the damaged part of the masonry work, will be less expensive compared with an eventual reconstruction of the deranged part left incorporated in the work after the reoperation of the line.

Many of the destroyed viaducts, are used to go over ground depressions, some times not so deep, and it could seem that the most economical and quickest arrangement is that substituting the masonry works with an embankment.

Such solution is to be rejected. Namely the hard geological kind of the ground to be passed, made generally with crumbly soil explains the reasons of building viaducts instead of embankments even where topographic kind of ground seemed to suggest the second solution.

In the first case, as a matter of fact the construction of viaducts allowed the research, in the depth of a proper foundation ground, while, on the surface, the soft and crumbly kind of the ground would not have enabled it to support the weight of embankment even flat, without remarkable collapses and long balance periods with important reloadings.

Considering the good conditions of the foundations walls, and as it would be necessary, through the reconstruction, to improve the previous conditions, we deem it necessary to reconstruct

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the destroyed bridges, restoring the preexisting structures in the whole.

Besides no important difficulty will be met for this resumption, that can be easily and promptly carried out, as the line is not in operation.

It should be to long and useless to list hereby the damaged viaducts and their damages, therefore you may examine the attached sketches on which the viaducts, damages and proposed reconstruction are shown.

As for the damaged tunnels we deem it suitable to point out some remarks that will be an useful guide for resumption works.

In occasion of the rehabilitation of the Termoli-Campobasso line, on which 5 damaged tunnels are located, it was formerly deemed to clean the obstructed section of said tunnels, resuming in this way the operation, and delaying the reconstruction of damaged walls.

But practically such arrangements did not grant any useful result. In fact due to the grumbly ground, it happens that, when it rains or snows, as it frequently happens in the area, the earth materials, being converted into mud, fall on the track obstructing it again.

Therefore it is necessary at the same time, with the reconstruction of bridges and viaducts, to carry out also the resumption of tunnel faceworks. The thickness of such faceworks, when they must be reconstructed, will be increased and they will be built in a rounder shape due to the very pushing kind of ground.

Equipment damages, as above referred, are quite remarkable, along the line between Km. 12+800 and 14+000, between Km. 20+200 and 30+700 and between Km. 32+700 and 75+000, several rails were broken in 2 or more points by mines/Worm investigations already made, it results that of the whole length of said line, approx. the half part of it is still intact and the other part of the rails are broken.

As we do not deem it suitable, for moment, to substitute the broken rails, to reoperate the line we suggest to saw the rails where they are broken, and to connect the resulting rail parts.

Such rail parts will generally have a length of more than 5 mts. In such a way it will be possible to get a track that will allow the train to pass.

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Such rail parts will generally have a length of more than 5 mts. In such a way it will be possible to get a track that will allow the train operation with the limited speeds, authorized for such line. Such speeds are not high, considering the altimetry and planimetry of this line.

Damages at the equipment have been made also at the station many frogs and blade frames of many switches have been blown up, however it will always be possible, recovering spare parts from sundry switches, to fit up, at least, 2 switches for each station, to have a crossing track.

Concerning the buildings we point out, that only some station buildings have been slightly damaged, namely, they had broken glasses, damaged fixtures etc. 6 line keeper's houses were heavily damaged due to gun shots and blown up mines, other line keeper's houses are damaged like the station buildings.

Watering plants at Pescolamazza, Marcone, Sepino and Vinchiatturo were destroyed.

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The needed amount, to carry out repair work is of Lire 175,000,000 as it results from the attached expense estimate. Such amount does not appear to be too high, considering the present conditions of the market and the high number of works to be carried out. Such expense would be bestowed at the rate of approx. 2/3 and 1/3 respectively during financial periods 1945-46 and 1946-1947, considering that all the works should not be carried out within 1945.

The foreseen expenses have been reckoned according to the present market prices considering the eventual increases in connection with the always rising prices. Therefore we think it advisable to the works, as soon as possible for any further delay will certainly increase the price of such works.

Concerning materials needed for such works no difficulties will be met for their supply. For masonries on abutments, on glabe walls, all along the line, there are frequent quarries of good calcareous stones, from which it is possible to withdraw ashlar stones necessary for casings and for refining works. For the vaults the use of bricks to be supplied by Benevento, Montaguto and Baranello kilns, is foreseen.

However in case of an eventual shortage of bricks in relation with the many masonry works to be carried out, the masonry on vaults should be made, for some works, with ashlar stones (wedge-shape). Such items would be recovered from calcareous stones, existing in a great quantity along the line.

For the pastes necessary on the section S. Giuliano - Pescolanazze it is foreseen to use river sand, to be withdrawn from the Tammaro river (the railway line runs along said river).

For the S. Giuliano-Campobasso section, the above sand and quarry calcareous sand will be used.

On the section near S. Giuliano, the pozzolana (whereof good results are known) will be withdrawn from local quarries, and could be used as agglomerating materials for pastes.

For the areas far from said locality, it is foreseen to use "Giuliano hydraulic agglomerating" manufactured at Vastellfranco in a factory (near Benevento) with such item it is possible to get a good cement paste.

As all along the line there are calcareous stones, it is possible to supply also some lime to be used to manufacture good normal pastes. But such pastes have a very slow setting especially inside the masonries where the

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As all along the line there are calcareous stones, it is possible to supply also some lime to be used to manufacture good normal pastes. But such pastes have a very slow setting especially inside the masonries where the contact with air is more difficult. Therefore as it is necessary to carry out quickly out said works, we prefer the use of hydraulic pastes only.

The above "Ariano hydraulic agglomerating" should be used also in manufacturing covers of vaults, in case it will be impossible to supply asphalt. Considering the availability of this materials we point out that in Abruzzo a large quantity of it is available.

In the area located near the line, it will be possible to supply the timber necessary for vault centering and for various yard use.

Concerning the manpower necessary for works, no particular difficulties are foreseen, namely in the concerned area good workmen and labour are available.

The only deficiency is transportation.

Therefore E.N.A.C. should grant for the work period, at least

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12 motorvehicles according to the same conditions ~~issued~~ made for the Termoli - Campobasso works.

Concerning the climate conditions, could be easily carried out starting on the 15th April to the 15th December, approx. 8 months. In other seasons the snow and cold do not allow the ~~ex~~ performing of paste masonry.

The above referred period, would it be wholly used, should be sufficient to carry out the proposed works. Therefore, in case the relative authority will be granted promptly, such line could be re-operated at the beginning of 1946.

Considering the quantity of works that should be at the same time performed, we propose to allot said works to various firms, through approx. 12 contracts. Each of said contract will cover the reconstruction of various masonry works grouped according to their locality; through other contracts it will be cared for the reconstruction of damaged buildings and for the supply of the needed ballast, always to be withdrawn from the area. The allotment of works should be made through private contracts.

On the contrary the works necessary to rehabilitate the track would be made by our personnel, properly helped by hired manpower. Such system resulted to be the most suitable both on the technic stand-points and on the economic ones in the rehabilitation, already carried out, of the section between Km. 12+800 and 14+000 and of Pietralcina station. Through such rehabilitation we could rehabilitate the equipment from Benevento up to Km. 20+200 (about as far as Pescolanza station) ~~Benevento~~ i.e. more than the fifth of the whole length of said line.

The I.S.R. Operation Committee, on the meeting of Nov. 13th 1944, put on the priority order for the lines not in operation, the 3rd rank for the line Campobasso-Benevento, i.e. after Termoli-Campobasso line (to be re-operated in the next future) and before Avellino-Rocchetta S. Antonio and Avellino-Benevento lines whereof works have been recently authorized.

This proposal includes :

1 Report

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This proposal includes :

- 1 Report
- 2 Expense estimate
- 3 Drawings (1 pamphlet)

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Naples, February 20th 1945

The Chief of 2nd Works Group

Sgd.

The Chief of Works Section
Sgd.

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